MYL'NIKOV, V.P.

Utilization of pyrite cinders. Bum.prom. 32 no.3:20 Mr '57.
(MLRA 10:4)

1.Glavnyy mekhanik Glavtsellyulozy
(Pyrites)

MYL'NIKOV, V.P.

Mechanical stability of digester linings. Bum.prom. 32 no.6:15-16 Je '57. (MLRA 10:8)

1. Glavnyy inzh. Glavnogo upravleniya tsellyuloznoy promyshlennosti. (Pulp industry--Equipment and supplies)

MYL'NIKOV, V.P.

KLINOV, I.Ya., prof.; FABRIKANT, T.L., nauchnyy sotrudnik; MYL'NIKOV, V.P., inzhener.

Use of carbon and graphite materials in the woodpulp and paper industry. Bum.prom.32 no.8:6-8 Ag '57. (MIRA 10:12)

1. Moskovskiy institut khimicheskogo mashinostroyeniya (for Klinov, Fabrikant).
(Graphite) (Woodpulp industry) (Carbon)

MYL'NIKOV, V.P., inzh.

High-quality lining of digesters in a sulfite pulp plant. Bum. prom.32 no.9:23-24 S '57. (MIRA 10:12)
(Woodpulp incustry--Equipment and supplies)

MYL'NIKOV, V.P., inzh.

Wooden electric filter without lead for scrubbing sulfur dioxide.
Bum. prom. 32 no.12:24-25 D '57. (MIRA 11:1)
(Dust collectors) (Sulfur dioxide)

MIL'NIKOV, V.P., insh.

Lining digesters with acid-resistant steel. Bum. prom. 33 no.3: 16-17 Mr '58. (MIRA 11:4)
(Woodpulp industry--Equipment and supplies)

MYL'NIKOV, V.P., inzh.

Heat-resistant concrete in the woodpulp industry. Bum. prom. (MIRA 11:10)
33 no.8:14-15 Ag '58.
(Concrete) (Woodpulp industry--Equipment and supplies)

MYL'NIKOV, V.P., inzh.

Strain-gauge indicator of digester charge. Bum. prom. 33 no.12:19-20 D '58. (MIRA 11:12)
(Woodpulp industry--Equipment and supplies)
(Strain gauges)

MYL'NIKOV, V.P., inzh.

New lining materials. Bum.prom. 34 no.2:16-17 F '59. (MIRA 12:4)

(Corrosion-resisting materials)
(Woodpulp industry--Equipment and supplies)

MYL'NIKOV, V.P., inzh.

Impregnation of brick lining. Bum. prom. 34 no.5:20-21 My '59.
(MIRA 12:6)

(Paper industry—Equipment and supplies)

MYL'NIKOV, V.P., inzh.

Lining steel pipes with vinyl plastics. Bum.prom. 34 no.8: 17-18 Ag '59. (MIRA 12:12)
(Pipe, Steel)
(Corrosion-resistant materials)

MYL'NIKOV, V.P., insh.

Electric heating in the woodpulp and paper industry.
Bum.prom. 35 no.5:21-22 My '60. (MIRA 13:7)
(Paper industry--Equipment and supplies)
(Electric heating)

MYL'NIKOV, V.P., insh.

Pay more attention to the qulaity of ceramic tiles for the lining of digesters. Bum.prom. 38 no.2:31-32 F '63. (MIRA 16:2)
(Woodpulp industry—Equipment and supplies) (Autoclaves)

MYL'NIKOV, V.P., inzh.

Use of electric heating in the woodpulp and paper production. (MIRA 16:5)
Bum.prom. 38 no.4:20 Ap '63.
(Woodpulp industry) (Electric heating)

S/181/62/004/003/031/045
B108/B104

AUTHORS: Zyl'nikov, V. S., and Putseyko, Ye. K.

TITLE: Effect of crystal structure on the optical and photoelectrical properties of phthalocyanine without metal

PERIODICAL: Fizika tverdogo tela, v. 4, no. 3, 1962, 774-777

TEXT: The spectra of absorption and photoeffect in the visible range as well as the sign of the photocarriers have been studied in metal-free phthalocyanine films and powders of both the alpha and beta crystallographic modifications. The films were prepared by vacuum sublimation of phthalocyanines prepared at the Ivanovskiy khimiko-tekhnologicheskiy institut (Ivanovo Institute of Chemical Technology) (Docent V. F. Torodkin is thanked for the preparations) and of "Agfa" Heliogen blau G powder. The alpha modification was obtained on mica backings at up to 150°C. This phase could be converted into the beta phase by heating to 300°C for 4 - 6 hr. The absorption spectra of the two modifications are shown in Fig. 2. In the case of a closer packing of molecules in the

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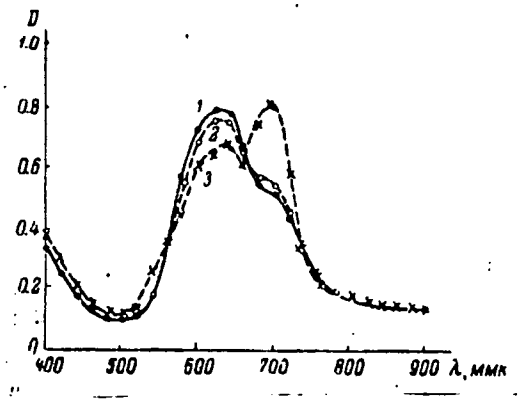
beta modification electron conductivity appears which is attributed to an overlapping of the intermolecular potential barriers. The alpha modification which has p-type conductivity only can interact with the surrounding gas or vapor. Consequently, its molecules produce sufficiently deep traps for conduction electrons. The quantum-yield maximum for a 50 mμ thick film of alpha phthalocyanine is in the range of the short-wave maximum of photo conductivity (~500 mμ). It is of the order of 10^{-3} - 10^{-4} electrons per quantum. Academician A. N. Terenin is thanked for discussions. There are 6 figures and 17 references: 10 Soviet and 7 non-Soviet. The four most recent references to English-language publications read as follows: G. Tollin, D. R. Kearns, M. Calvin. J. Chem. Phys., 32, 1013, 1960; D. R. Kearns, M. Calvin. J. Chem. Phys., 34, 2023, 1961; D. D. Eley. Research, 12, 293, 1959; K. Winksne, A. E. Newkirk. J. Chem. Phys., 34, 2184, 1961.

ASSOCIATION: Gosudarstvennyy opticheskiy institut im. S. I. Vavilova, Leningrad (State Optical Institute imeni S. I. Vavilov, Leningrad)

SUBMITTED: November 25, 1961

Fig. 2. Absorption spectra of metal-free phthalocyanine obtained at different temperatures of backing. Legend: (1) 20°C, (2) 150°C, (3) after 4 hr vacuum annealing at 300°C.



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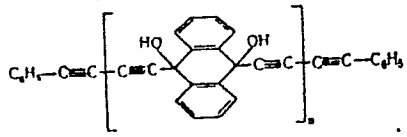
S/020/62/144/004/019/024
B101/B138

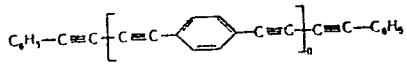
AUTHORS: Myl'nikov, V. S., Sladkov, A. M., Kudryavtsev, Yu. P., Luneva, L. K., Korshak, V. V., Corresponding Member AS USSR, and Terenin, A. N., Academician

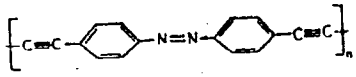
TITLE: Photo-semiconductor properties of acetylene polymers

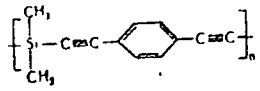
PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 4, 1962, 840 - 843

TEXT: Data for the polyacetylenes I - VIII are reported from the laboratory directed by A. N. Terenin where research on photosensitive polymers has long been proceeding. The compounds were synthesized in the laboratory directed by V. V. Korshak. I, II and III were very photosensitive in


(I)


(III)


(II)


(IV)

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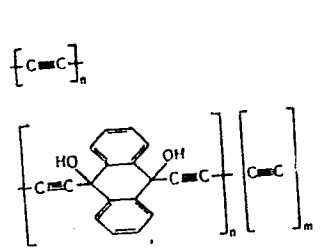
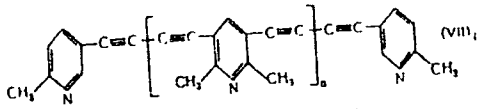
S/020/62/144/004/019/024
B101/B138

Photo-semiconductor properties...

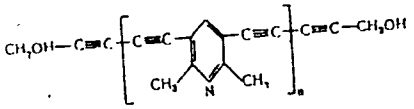


(V)

(VI)



(VII)



(VIII)

modulated light (10 mv/mw at 300 cps). IV, V and VI were less photo-sensitive; VII and VIII showed no photo-emf. In I - IV the conductivity was of p type, in V and VI it was of n type. I and II were examined more closely. Results: (1) The spectral distribution of photo-emf showed a reduction in this effect at 200 → 600 mμ with a narrow selective peak of exciton type at λ = 480 mμ in the case of I and a wide peak in this range for II. (2) Preliminary illumination of II for 2 hr in ultraviolet light from an OI-120 (SVD-120) mercury lamp increased its photo-emf by one order of magnitude. The long-wave threshold of activation is at 366 mμ and the 405 mμ line is inactive. (3) Preliminary illumination is more effective in vacuo than in air. The photo-emf of I increases during the first

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Photo-semiconductor properties ...

3 - 5 min lighting, then slowly decreases, but after approx. 1 hr regains its initial value. After 1 - 2 hr storage in the dark this process is repeatable. (4) If II is activated by UV light in vacuo the admission of air immediately reduces its photo-emf to 1/2 - 1/3. This effect is also repeatable. These results are explained by the UV light ionizing the conjugated molecules so that positively charged local centers are formed which act as electron traps. The photoelectron is retained in the polymer structure according to E. C. Lim, G. W. Swenson (J. Chem. Phys., 36, no. 1, 118 (1962)). The absorption of light permits the origination of an exciton which migrates between the molecules and disintegrates on a defect produced by the UV light to form a mobile hole and an electron trapped by the defect. Accordingly it should be possible to synthesize photosensitive polymers. There are 3 figures.

SUBMITTED: April 20, 1962

Card 3/3

MYL'NIKOV, V.S.

Intrinsic photo effect in acetylene polymers. Dokl. AN SSSR 157 no.5:1184-1187 Ag '64. (MIRA 17:9)

1. Predstavleno akademikom A.N. Tereninym.

MYL'NIKOV, V.S.

Photoconductivity kinetics of acetylene polymers. Dokl. AN SSSR 148 no.3:620-623 Ja '63. (MIRA 16:2)

1. Predstavleno akademikom A.N. Terenin'm.
(Acetylene compounds) (Photochemistry)

MYL'NIKOV, V.S.

AID Nr. 977-12 27 May

PHOTOCONDUCTIVITY OF ACETYLENE POLYMERS (USSR)

Myl'nikov, V. S., Ye. K. Putseyko, and A. N. Terenin. IN: Akademiya nauk SSSR. Doklady, v. 149, no. 4, Apr 1963, 897-900.
S/020/63/149/004/020/025

The study of photoconduction in polyacetylenes as exemplified by poly(4, 4'-diethynylazobenzene) (I) has been continued. The spectral curves of 1) transverse photoconductivity (i_{ph}/w), 2) diffusion photo-emf (V_{ph}/w) (both reduced to equal incident energy), and 3) light absorption ($1 - R_\lambda$) were recorded at 17° C (see figure). In the first case the d-c method under constant illumination was used. The test specimens consisted of thin films of I deposited from dimethylformamide onto a quartz plate with Pt electrodes; the voltage across the electrodes was 100 to 200 v. In the second case the condenser method and powder specimens were used. A mercury-vapor lamp was employed for illumination with integral light since incandescent-lamp illumination had only slight effect on photoconductivity. The effect of ultraviolet illumination on the spectra is shown

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AID Nr. 977-12 27 May

S/020/63/149/004/020/025

PHOTOCONDUCTIVITY [Cont'd]

in the figure. Curves 1 and 4 indicate conductivity and absorption without prior illumination; curves 2 and 3 show conductivity and emf after UV illumination for 10 min. The fact that conductivity shows a peak at 610 mμ, while the emf peak is barely noticeable at 500 mμ, is explained by the correspondence of the conductivity to the absorption drop. Such correspondence is typical of photoconductors. The UV-induced rise in conductivity at 610 mμ is attributed to the formation of electron trapping centers in I, which was previously shown to exhibit p-type conductivity. The UV-induced shift of the 300 mμ-peak to 310 mμ is ascribed to further the photopolymerization caused by the rise in conductivity. The detection of light-induced

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EPR signals in I confirmed the presence of the centers. The photoconductivity mechanism is assumed to be similar to that in organic dyes. Compound I was synthesized at the Institute of Organoelemental Compounds, Academy of Sciences USSR, and made available for study by V. V. Korshak and A. M. Sladkov. The optical activation energy of conduction for I was calculated to be 1.82 ± 0.02 ev.

[SVM]

L 3480-65 EWT(1)/EPA(s)-2/EWT(m)/EWP(j)/T/EWA(h) Pz-6/Pc-4/Pt-10/Peb
IJP(c) AT/RM
ACCESSION NR: AP4007546 S/0020/63/153/006/1381/1384

AUTHOR: My*l'nikov, V. S.; Terenin, A. N. (Academician)

TITLE: Photosemiconductor properties of metal acetylides

SOURCE: AN SSSR. Doklady*, v. 153, no. 6, 1963, 1381-1384

TOPIC TAGS: metal acetylide, photosemiconductor, organic semiconductor, copper acetylide, silver acetylide, photoconductivity, acetylene bond, acetylide, photoelectric effect, semiconductor, polyyne, electron donor, electron acceptor

ABSTRACT: In view of the interest in organic semiconductors and work previously done by the authors on photoeffects in polymers having triple bonds in the conjugate chains, as well as diffusion photoemf, photoconducitivity and relaxation of the latter in some polyynes; and as so far triple-bond polymers and oligomers only were studied, the authors here amplify their investigation to apply to the following triple-bond monomers: (I) cuprous phenylacetylide, (II)

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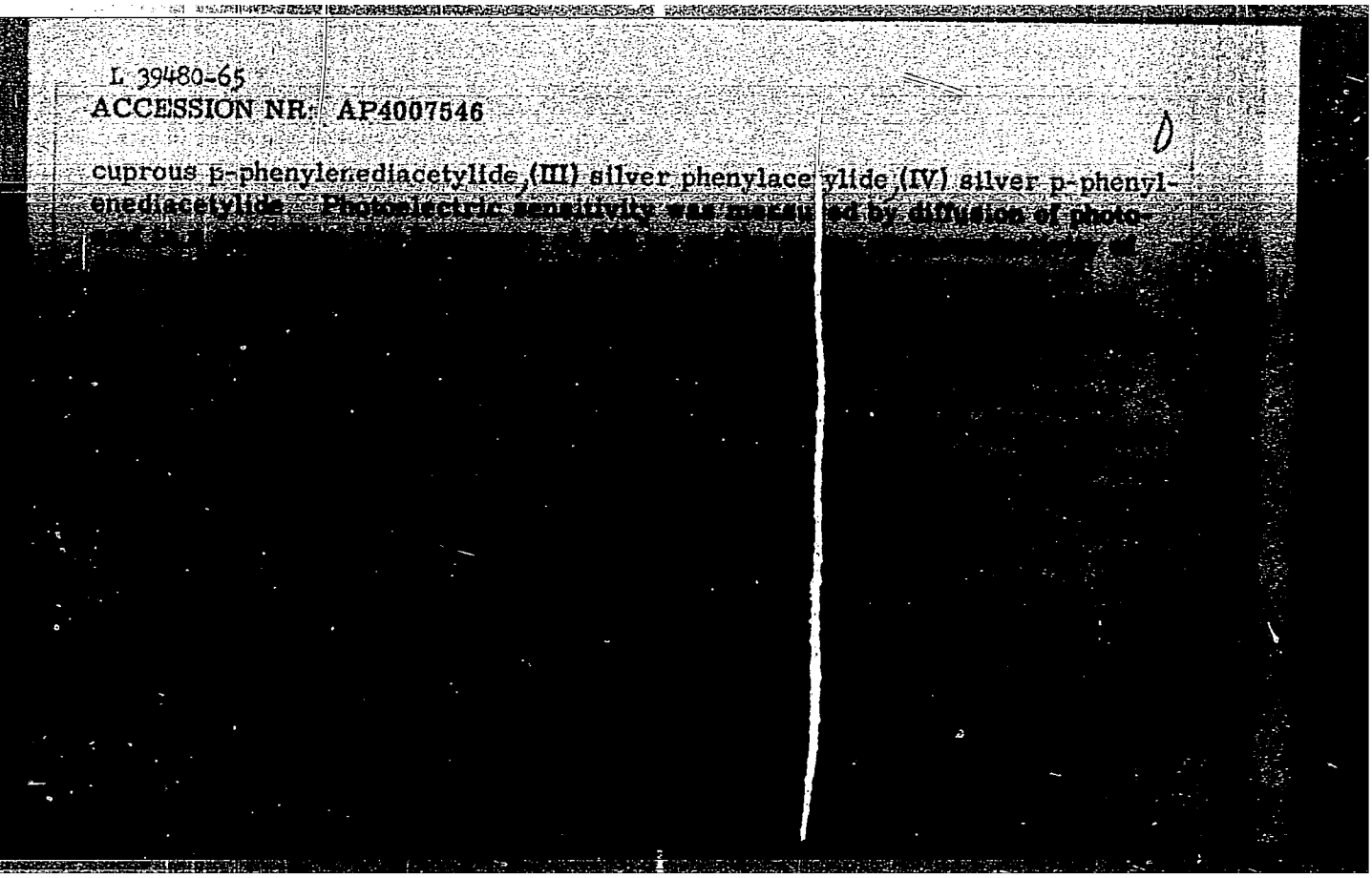

L 39480-65
ACCESSION NR: AP4007546

cuprous p-phenylenediacetylide, (III) silver phenylacetylide, (IV) silver p-phenylenediacetylide. Photoelectric sensitivity was measured by diffusion of photo-

L 39480-65
ACCESSION NR: AP4007546

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macromolecules. In heavy metal compounds such an interaction is caused by the π-complex bridges of electron-acceptor copper atoms with the acetylene bonds acting as electron donors." Credit is given to V. V. Korshak and A. M. Sladkov who supplied the acetylides from laboratory at the Institute of Elemento-organic Compounds AN SSSR." The orig. art. has: 3 figures, 4 formulas

ASSOCIATION: None

SUBMITTED: 20June63 ENCL: 00

SUB CODE: GC, SS NO REF SOV: 009 OTHER: 003

Card 3/3

ACCESSION NR: AP4034545 S/0020/64/155/005/1167/1170

AUTHOR: My*lnikov, V. S.; Terenin, A. N. (Academician)

TITLE: Spectral sensitization of the intrinsic photoeffect in copper phenylacetylenide with dyes.

SOURCE: AN SSSR. Doklady*, v. 155, no. 5, [illegible] 4, 1167-1170

TOPIC TAGS: copper phenylacetylenide, intrinsic photoeffect, sensitization, chlorophyll a, pinacyanol, transverse photoconductivity, diffusion photoelectromotive force, apectral sensitization, semiconductor, organic semiconductor, majority carrier, minority carrier

ABSTRACT: The sensitization of the photoeffect in copper phenylacetylenide by chlorophyll a or pinacyanol was studied by the methods of transverse photoconductivity and diffusion electromotive force described earlier by the authors (DAN, 153, No. 3 (1963)). Sensitizing with a 10^{-3} M solution of chlorophyll a increased the photo-e.m.f. of the copper phenylacetylenide (indicating dispersion of the dye on its surface) and shifted the maximum with respect to the dye solution (indicating adsorption). The photoconductivity spectrum of the copper phenylacetylenide

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ACCESSION NR: AP4034545

in the sensitized region shifted toward the long wave, but the dark conductivity was practically unchanged. The 10^{-3}M ethanol solution of pinacyanol shifted the maximum of the spectral sensitivity of the copper phenylacetylenide toward the long wave in comparison to the absorption spectrum of the solution in both methods. An increase in the intensity of one of the maxima was attributed to greater aggregation of the dye on adsorption and subsequent sensitization by the dye aggregate. Pinacyanol reduced the photoconductivity and the photo-e.m.f. of the copper acetylenide; it did not change its dark photoconductivity. It was concluded the mechanism of spectral sensitization in organic semiconductors is similar to that in inorganic semiconductors. A sensitizing effect was shown by different classes of dyes--cationic (pinacyanol), anionic erythrosine), or neutral (chlorophyll a). The changes in the intrinsic photosensitivity of copper acetylenide observed in the present work were explained as follows: if the adsorbed dye captured the majority carriers (holes) upon illumination in the intrinsic sensitivity region, then the photo-e.m.f. is reduced in this area, as with pinacyanol. The intrinsic photo-e.m.f. is increased if the dye captured the minority carriers (electrons), while the transverse photoconductivity decreased. The anomalous increase in photoconductivity produced by chlorophyll was attributed to absorption

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ACCESSION NR: AP4034545

bands of the chlorophyll a in this region, which could produce a photosensitizing effect. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 30Dec63 ENCL: 00

SUB CODE: EM, MT NO REF SOV: 007 OTHER: 006

Card 3/3

ACCESSION NR: AP4043841 S/0020/64/157/005/1184/1187

AUTHOR: My*l'nikov, V. S.

TITLE: Photoelectric effect in acetylene polymers

SOURCE: AN SSSR. Dodlady*, v. 157, no. 5, 1964, 1184-1187

TOPIC TAGS: organic semiconductor, semiconducting polymer, acetylene polymer, photoconducting property, photoconductivity, photo emf

ABSTRACT: The photoconducting properties of the following new acetylene polymers have been studied: p-diethynylbenzene—(p-nitrophenyl-acetylene copolymer (I); reduction product (Zn dust) of I (II); polycondensation product of 9,10-diethynylanthracene with (p-nitrophanyl) acetylene, soluble fraction (III), insoluble fraction (IV); polycondensation product of 9,10-diethynyl-9,10-dihydroxy-9,10-hydroanthracene with (p-nitrophenyl)acetylene, soluble fraction (V), insoluble fraction (VI); polycondensation product of 9,10-diethynyl-9,10-dihydroxy-9,10-dihydroanthracene with α-naphthylacetylene (1/1), soluble fraction (VII), insoluble fraction (VIII); and the oxidative condensation product (IX) of p-diethynylbenzene and 4,4'-bis(2-propynoxy)-biphenyl. The photoelectric effect was studied by the transverse

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ACCESSION NR: AP4043841

photoconduction and diffusion photo-emf techniques in air and vacuum (10^{-4}—10^{-5} mm Hg). Absorption spectra were also recorded. The spectral response of photocurrent reduced to equal incident energy was plotted in the 300—700-mu range, with or without prior illumination with white light for solid and solution samples. On illumination with white light, all polymers I—IX showed a photo-emf in the visible and ultraviolet regions; the majority carrier sign was positive. Comparison of absorption spectra and the spectral responses of photocurrent for films and solutions of I suggested that in solid I, electronic energy bands exist for all molecules and, therefore, the band theory may, with certain qualifications, be applicable to I. "Appreciation is expressed to A. M. Sladkov et al. for making the polyacetylenes available and to Academician A. N. Terenin for his supervision of this work." Orig. art. has: 3 figures and 5 formulas.

ASSOCIATION: none

SUBMITTED: 19Mar64 ATD PRESS: 3092 ENCL:

SUB CODE: OC, EM NO REF SOV: 010 OTHER: 007

Card 2/2

L 3970-66 EWT(l)/EWT(m)/EPF(c)/EWP(j)/T IJP(c) AT/RM

ACCESSION NR: AP5024220 UR/0020/65/164/003/0622/0625
535.215.5

AUTHOR: Myl'nikov, V. S.

TITLE: Influence of vapors and gases on electric conductivity, photoconductivity, and photo emf of copper polyphenylacetylenide

SOURCE: AN SSSR. Doklady, v. 164, no. 3, 1965, 622-625

TOPIC TAGS: copper polyphenylacetylenide, copper phenylacetylenide, electric conductivity, photoconductivity, photoelectromotive force, adsorption, desorption, gas, vapor

ABSTRACT: Measurements showed a marked increase of dark current and a lesser increase of the photocurrent in copper polyphenylacetylenide when air was removed from the container down to 5×10^{-5} tor. The introduction of oxygen quenched the two currents, the quenching influence being reversible; when oxygen was removed and then introduced the cycle was repeated. It is assumed that oxygen produces on the surface of the material effective recombination centers which reduce the lifetimes of the majority carriers (holes). The introduction of water vapor did not change significantly the spectrum of the emf, whose amplitude was only slightly quenched. The introduction of oxygen contributes to the return

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L 3970-66

ACCESSION NR: AP5024220

of the original form of the spectrum. It may be that in vacuum an effective photodesorption of oxygen takes place due to the ultraviolet light, which reduces the diffusion type of the photo emf. Water vapors reduce the photoconductivity and increase the photo emf. Besides, when during the measurements of the modulated signal of the photo emf, the material is illuminated with a light of maximum absorption wavelength, then in the region of weak absorption, photo emf appears with reverse polarity. Only insignificant changes of photo emf and spectral characteristics were observed when electron acceptor molecules were introduced. [ZL]
Orig. art. has: 4 figures.

ASSOCIATON: none

SUBMITTED: 29Jan65 ENCL: 00 SUB CODE: SS

NO REF SOV: 009 OTHER: 009 ATD PRESS: 4118

PC

Card 2/2

L 15563-66 EWT(m)/EWP(j)/T RM

ACC NR: AP6004409 SOURCE CODE: UR/0051/66/020/001/0086/0091

AUTHOR: Lashkov, G. I.; Myl'nikov, V. S.

ORG: none

TITLE: Spectral analysis of luminescence and the photoconductive effect in copper phenylacetylenide polymer

SOURCE: Optika i spektroskopiya, v. 20, no. 1, 1966, 86-91

TOPIC TAGS: crystalline polymer, copper compound, photoconductivity, luminescence spectrum, light absorption, spectral distribution

ABSTRACT: Optical absorption, luminescent and photoelectric properties in copper phenylacetylenide polymer are spectrally analyzed. The photoelectric sensitivity was determined from the diffusion photoelectromotive force in a condenser with a modulation frequency of 300 cps and from the transverse d-c photoconductivity in air and in a vacuum of 10^{-5} mm Hg. Powdered specimens were used for studying the diffusion photoelectromotive force. The specimens for the photoconductivity measurements were films 1-5 μ thick. The spectral distribution of photoconductivity and

Card 1/2 UDC: 535.215 + 535.34 + 535.37 + + 541.65 + 541.148

photoelectromotive force in the 300-700 mμ was determined by a monochromator with a diffraction grating. The light sources were a xenon lamp and a 70 watt incandescent lamp. It was found that photochemical processes in the polymer under the action of ultraviolet light reduce to dissociation of weak coordination bonds which changes the ratio between the polymer homologs. Photodestruction continues right up to formation of diphenylbutadiyne molecules which are embedded in the polymer structure. The primary event in light absorption is apparently the formation of excitons. Competition between decay and de-excitation of these particles determines the photoelectric and luminescent properties of copper phenylacetylenide. Luminescence of the polymer at low temperatures is due to radiative transitions on the surface. In conclusion we are grateful to A. N. Sidrov and Ya. S. Bobovich for measuring the infrared and Raman spectra. The authors thank A. N. Terenin for guidance in carrying out this work. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 22Sep64/ ORIG REF: 010/ OTH REF: 011

L 28451-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6018067 SOURCE CODE: UR/0076/66/040/005/0979/0984

AUTHOR: Myl'nikov, V. S. 43 B

ORG: none

TITLE: Effect of water vapor on the electrical conductivity, photoconductivity, and photo emf of poly(copper phenylacetylenide)

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 5, 1966, 979-984

TOPIC TAGS: organic semiconductor, semiconducting polymer, coordination polymer, electric property

ABSTRACT: The effect of water vapor on the dark conductivity, photoconductivity, and photo emf of poly(copper phenylacetylenide)(I), a coordination polymer, has been studied. It is noted that in earlier studies the photoelectric effect was detected in I, and a comprehensive study of optical absorption and photoelectric and luminescent properties was carried out. This particular study was prompted by the earlier-discovered significant role of the surface in photoelectric and luminescent processes occurring in I. Photoelectric measurements were conducted in air and in vacuum (10^{-5} torr) for samples of finely divided powder consisting of minute crystals. The experimental setup and procedure aredescribed briefly in the source. It was found that water vapor reversibly

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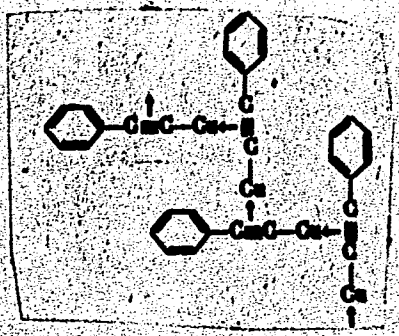
L 28451-66

ACC NR: AP6018067



decreases dark conductivity, photoconductivity, and increases photo emf in I. These effects were attributed to the formation of an electric double layer on the surface of I due to surface states produced by the adsorption of water vapor which trap equilibrium charge carriers. Orig. art. has: 4 figures. [SM]

SUB CODE: 20,07/SUBM DATE: 14May65/ ORIG REF: 014/ OTH REF: 008/ ATD PRESS: 5006

Card 2/2

L 09702-67 EWP(j)/EWT(m)/T/EWP(v) IJP(c) RM/DC/WW

ACC NR: AP6026355 SOURCE CODE: UR/0237/66/000/005/0027/0030

AUTHOR: Sidaravichyus, I.; Levina, F. A.; Rybalko, G. I.; Sladkov, A. M.; Myl'nikov, V. S.; Kudryavtsev, Yu. P.; Ukhin, L. Yu.

ORG: none

TITLE: Electrophotographic layers with photosemiconducting acetylenic polymeric compounds

SOURCE: Optiko-mekhanicheskaya promyshlennost', no. 5, 1966, 27-30

TOPIC TAGS: electrophotography, organic semiconductor, semiconducting polymer, copper compound, acetylene compound

ABSTRACT: The article reviews reported studies of new electrophotographic layers. Semiconducting organic polymeric compounds containing triple bonds in the conjugation chain (polyynes) have been found to display a high photoelectric sensitivity and very short times of photoeffect relaxation. The structure of these compounds is

$$R{-}C{\equiv}C\left[-C{\equiv}C{-}R_1{-}C{\equiv}C\right]_n C{\equiv}C{-}R$$

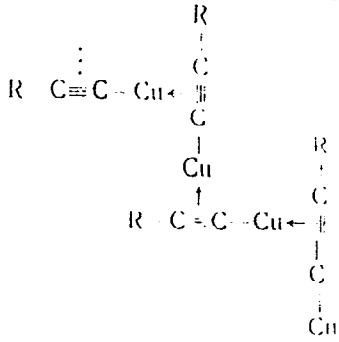
$$\left[-C{\equiv}C{-}R_1{-}C{\equiv}C\right]_n$$

Card 1/3 UDC: 772.93

L 05702-67

ACC NR: AP6026355

where R and R_1 are organic radicals which may or may not contain functional groups, e. g., R - p-phenyl, p-nitrophenyl, p-iodophenyl, butyl, α-naphthyl, and R_1 - divalent radicals of benzene, azobenzene, anthracene and 9,10-dihydrohydroxyanthracene. A high photoelectric sensitivity has also been observed in copper acetylides of the form



where R are organic radicals which may or may not contain functional groups, e.g., phenyl, nitrophenyl, halogenated phenyl, naphthyl, or butyl. The use of polyvinylcarbazole as a binder for polyynes and copper acetylides has given very good results. Spectral sensitization of the photoconductive effect of the polyynes can be achieved with organic dyes. It is concluded that organic semiconductors are very useful in electrophotography and that highly sensitive electrophotographic layers can be pre-

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L 05702-67
ACC NR: AP6026355

pared from them. Authors are sincerely grateful to Academician A. V. Terenin for supervising the work. Orig. art. has: 1 table.

SUB CODE: 14/ SUBM DATE: 01Nov65/ ORIG REF: 010/ OTH REF: 015

Card 3/3

MYL'NIKOV, YE. A.

"Arthroplasty of the Elbow Joint." Min. Public Health RSFSR, Sverdlovsk State Medical Inst., Sverdlovsk, 1955. (Dissertation for the Degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No. 22, 1955, pp 93-105

GRAN', N.I.; MYL'NIKOV, Yu.S.; SUPRUNENKO, V.G.

Short network and power resources of an electric 20,000 kv.-a. smelting furnace. Prom.energ. 16 no.6:34-36 Je '61. (MIRA 15:1)
(Electric furnaces)

MYL'NIKOVA, A.N.

BLAGOVESHCHENSKIY, A.P.; MYL'NIKOVA, A.N., inzh.

Pneumatic cotton conveying to the head feeder. Tekst.prom. 18 no.4:53 Ap '58. (MIRA 11:4)

1. Nachal'nik remontno-montazhnogo otdela fabriki imeni Balashova, g. Ivanovo (for Blagoveshchenskiy).
(Pneumatic machinery) (Cotton manufacture)

S/169/62/000/001/037/083
D228/D302

3.5800

AUTHOR: Myl'nikova, A. Ya.

TITLE: Applying the ЭПП-09 (EPP-09) automatic electron potentiometer for recording radiation flow

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 5, abstract 1B42 (Sb. rabot Tsimlyanskoy gidrometeorol. observ., no. 2, 1961, 36-42)

TEXT: Summary radiation measurements were made at the Volzhskaya meteorologic station in the summer of 1958; a stationary albedometer was used as the receiver. Radiation measurements were made with the customary galvanometer five times a day for the purpose of deciphering the potentiometer recordings. A graph of the relationship of the control galvanometer readings and the ordinates of the recording curve on the tape was compiled during the processing of the tapes, and a pallet was constructed. The monthly totals were compared with the results of the customary standard observations for five averaged readings. It is shown that the differences are

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slight, and that they may be explained by the increase (decrease) in the radiation magnitude at the moment of readings during standard observations, especially on days with variable cloud. The potentiometer recordings reflect the detailed course of the radiation in time and allow the daily totals to be more precisely established. The constant excess of the summary radiation magnitudes obtained from recordings with the potentiometer is noted in comparison with those of the standard observations. It is observed even on cloudless days. Data are cited for measurements on the cloudless days of July 17 and 18. The author explains such divergences by the differing atmospheric transparency and by the insufficient accuracy of the conversion factor of the recording equipment's albedometer. [Abstractor's note: Complete translation.]

Card 2/2

L 6510-66 EWT(l)/EWT(m)/ETC/EWG(m)/T/EWP(t)/EWP(b)/EWA(h) IJP(c)
ACCESSION NR: AP5019426 RPL/JD/AT UR/0020/65/163/003/0613/0616

AUTHOR: Myl'nikova, A. I.; Cherkasov, Yu. A.

TITLE: Influence of crystalline phase in amorphous selenium on the signs of the dark and light carriers

SOURCE: AN SSSR. Doklady, v. 163, no. 3, 1965, 613-616

TOPIC TAGS: selenium, current carrier, crystal property, semiconductor carrier, photoconductivity, hole conduction, dark current, conduction band

ABSTRACT: The authors used in their investigation a new method, previously described by one of them (Cherkasov, Optiko-mekhanich. prom. v. 4, 17, 1962; with S. G. Grenishin, Fiz. tverd. tela v. 6, 2831, 1964), based on the possibility of obtaining controlled band curvature in an appreciable part, or even in the entire thickness of a high-resistance semiconducting layer on a conducting substrate, by depositing over the semiconductor surface an ionic charge of either polarity. The preparation of the selenium layer is briefly described. In the case of purely amorphous selenium, the relative dark potential relaxed more rapidly when a negative charge was deposited on the surface than for a positive charge. The reverse took place when crystals were introduced in the selenium. This indicates that the inclusion of the crystalline phase reverses the sign of the dark carriers

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L 6510-66
ACCESSION NR: AP5019426

from negative (electrons) to positive (holes). A similar effect takes place under illumination, when the initially negative carriers become positive upon addition of the crystalline phase. It is concluded on this basis that published data (P. K. Weimer, Phys. Rev. v. 79, 171, 1950) that selenium has hole-type conductivity, pertain to material containing a crystalline inclusion. "The authors thank S. G. Vrenishin and Ye. K. Putseyko for a discussion of the results." This report was presented by A. N. Terenin. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 06Jan65 ENCL: 00 SUB CODE: SS, OP

NR REF SOV: 005 OTHER: 009

aw

Card 2/2

KIRILLOVA, T.V., kand.fiz.-matem.nauk; MYL'NIKOVA, I.Ya.

Radiation balance of the Volgograd Reservoir. Meteor. i gidrol. no.9:26-30 S '56. (MLRA 18:8)

1. Glavnaya geofizicheskaya observatoriya i Volgogradskaya gidrometeorologicheskaya observatoriya.

MYL'NIKOVA, I. YE

MYL'NIKOVA, I. YE.—"Investigation of Solid Solutions (Ba, Pb) (Ti, Sn) O_2 with Seignette-Electric Properties." Acad Sci USSR. Inst of the Chemistry of Silicates. Leningrad, 1955. (Dissertation for the Degree of Candidate in Technical Science).

SO Knizhanay letopis'
No 2, 1956

Myl'nikova I.Ye.

SUBJECT: USSR/Luminescence 48-3-20/26

AUTHOR: Myl'nikova I.Ye.

TITLE: Investigation of Solid Solutions (Ba,Pb)(Ti,Sn)O_3 Possessing Ferroelectric Properties (Issledovaniye tverdykh rastvorov (Ba,Pb)(Ti,Sn)O_3, obladayushchikh segnetoelektricheskimi svoystvami)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya fizicheskaya, 1957, Vol 21, #3, pp 423-432 (USSR)

ABSTRACT: As a result of investigating the systems $BaTiO_3$ - $PbTiO_3$, $BaTiO_3$ - $PbSnO_3$, $PbTiO_3$ - $BaSnO_3$, $BaTiO_3$ - $BaSnO_3$, $BaSnO_3$ - $PbSnO_3$ and $PbSnO_3$ - $PbTiO_3$ carried out in the laboratory of the Institute of Semiconductors, a sketchy diagram of phase transitions in the system (Ba,Pb)(Ti,Sn)O_3 was constructed. This diagram, pictured in Figure 10 of the article, shows the dependence of transition temperatures of solid solutions from the paraelectric phase into ferroelectric one on the composition of a system.

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48-3-20/26

TITLE: Investigation of Solid Solutions (BaPb)(Ti,Sn)O_3 Possessing Ferroelectric Properties (Issledovaniye tverdykh rastvorov (Ba,Pb)(Ti,Sn)O_3, obladayushchikh segnetoelektricheskimi svoystvami)

Solid solutions with high content of lead titanate possess the highest values of Curie point. The Curie point sharply decreases in solid solutions with the increase of barium stannate content. Solid solutions containing high amounts of barium stannate do not possess ferroelectric properties. If the content of lead stannate exceeds 70 %, solid solutions are not formed.
The article contains 10 figures and 2 tables. The bibliography lists 11 references, of which 7 are Slavic (Russian)

INSTITUTION: Institute of Semiconductors of the USSR Academy of Sciences

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 2/2

SOV/70-4-3-29/32

AUTHORS: Myl'nikova, I.Ye. and Bokov, V.A.

TITLE: Some Dielectric Properties of Single Crystals of $Pb_3NiNb_2O_9$

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 3, pp 433-434 (USSR)

ABSTRACT: Smolenskiy and Agramovskaya (Ref 1) prepared polycrystalline $Pb_3NiNb_2O_9$ and studied its dielectric properties, showing its susceptibility-temperature curve had a maximum. Single crystals have now been grown from a melt in PbO and were checked by X-ray powder photographs for composition. They were sliced into plates of unknown orientation and curves of ε and tanδ were recorded at 1, 45 and 450 kc/s for temperatures between -170 °C and 0. The loss curves show pronounced maxima at about -125 °C, varying with frequency. The ε-T curves are identical above -90 ° but below this depend on frequency. At 41 °K there is no hysteresis even at 100 kV/cm but at -196 ° hysteresis is appreciable at 50 c.p.s. and 85 kV/m [sic] - it is not possible to decide

Card1/2

Some Dielectric Properties of Single Crystals of $Pb_3NiNb_2O_9$

whether $Pb_3NiNb_2O_9$ is a ferroelectric or a "relaxator". There are 2 figures and 1 Soviet reference.

ASSOCIATION: Institut poluprovodnikov AN SSSR (Institute of Semiconductors of the Ac.Sc., USSR)

SUBMITTED: August 19, 1958

86427

S/181/60/002/011/011/042
B006/B056

24.7800 (1035, 1142, 1162)

AUTHORS: Bokov, V. A. and Myl'nikova, I. Ye.

TITLE: Ferroelectric Properties of Single Crystals of New Compounds With Perovskite Structure

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 11, pp. 2728-2732

TEXT: The essential results of this work were communicated at the Third Conference on Ferroelectricity (Moscow, January 1960). The authors grew perovskite-type single crystals of $PbNi_{1/3}Ta_{2/3}O_3$ (I), $PbMg_{1/3}Ta_{2/3}O_3$ (II), $PbCo_{1/3}Nb_{2/3}O_3$ (III), $PbCo_{1/3}Ta_{2/3}O_3$ (IV), and $PbZn_{1/3}Nb_{2/3}O_3$ (V) and studied the ferroelectric properties of these compounds. First, the crystals were subjected to an X-ray examination which showed that all of them had perovskite structure with cubic elementary cells. Further, the following was found:

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Ferroelectric Properties of Single Crystals of New Compounds With Perovskite Structure

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Compound	1	2	3	4	5	6
I	4.01	10.17	9.94	395.4	386.0	2.3
II	4.02	9.80	9.65	383.9	378.0	1.6
III	4.04	8.48	8.45	336.8	335.8	0.3
IV	4.01	10.18	9.87	395.4	383.3	3.1
V	4.04	-	-	-	-	-

1) Cell parameter, kX
2) X-ray density
3) Pycnometrically determined density
4) Theoretical molecular weight
5) Experimental molecular weight
6) Theoretical-experimental deviation, %

All X-ray diagrams exhibited a fine structure. Fig. 1 shows the temperature dependence of ε and tan δ of the compounds II, III, I, and IV, and Fig. 2 that of V. In all cases ε and tan δ have a maximum. As compared to the maximum of ε, that of tan δ is always shifted toward lower temperatures, which is characteristic of ferroelectrics. A study of the dependence of polarization on the direction of the electric field showed that all crystals have a dielectric hysteresis. Compound V has a particularly marked loop with good saturation, and nearly the same good result was obtained for II. Fig. 3 shows pictures of the loops. The authors thank Professor

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Ferroelectric Properties of Single Crystals of New Compounds With Perovskite Structure

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B006/B056

G. A. Smolenskiy for his interest and discussions, and N. N. Parfenova for carrying out the chemical analyses. A. I. Agranovskaya is mentioned. There are 3 figures, 2 tables, and 4 Soviet references.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad
(Institute of Semiconductors of the AS USSR, Leningrad)

SUBMITTED: June 1, 1960

Table 2

Соединение	ε_{max}	θ, °C	Δθ, °C
$PbMg_{1/3}Nb_{2/3}O_3$	15000	— 12	86
$PbMg_{1/3}Ta_{2/3}O_3$	7000	— 98	
$PbCo_{1/3}Nb_{2/3}O_3$	6000	— 70	70
$PbCo_{1/3}Ta_{2/3}O_3$	4000	—140	
$PbNi_{1/3}Nb_{2/3}O_3$	4000	—120	60
$PbNi_{1/3}Ta_{2/3}O_3$	2400	—180	
$PbZn_{1/3}Nb_{2/3}O_3$	22000	+140	—

Legend to Table 2: θ - temperature at ε_{max} with f=1 kc/sec; Δθ - difference of these temperatures of the niobates and of the corresponding tantalates.

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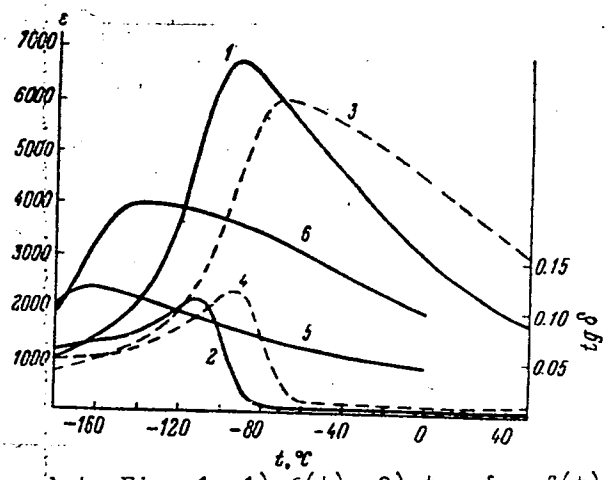

Legend to Fig. 1: 1) ε(t), 2) tan δ = f(t) of II, f = 1 kc/sec
3) ε(t), 4) tan δ = f(t) of III, f = 1 "
5) ε(t) of I , f = 450 kc/sec
6) ε(t) of IV, f = 1 kc/sec

Card 4/4

24.7000

39132
S/058/62/000/006/078/136
A061/A101

AUTHORS: Myl'nikova, I. Ye., Bokov, V. A.

TITLE: Growth and electrical properties of $Pb_3NiNb_2O_9$ and $Pb_3MgNb_2O_9$ single crystals

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 25, abstract 6E213 (In collection: "Rost kristallov. T. 3". Moscow, AN SSSR, 1961, 438 - 446. Discuss., 501 - 502)

TEXT: The growing method and electrical properties of $Pb_3NiNb_2O_9$ (I) and $Pb_3MgNb_2O_9$ (II) single crystals are described. The crystals were grown by crystallization from solution, a PbO melt being the solvent. The batch, consisting of a stoichiometric mixture of oxides, was preliminarily roasted at 850°C, the growing operation was conducted in platinum crucibles at a maximum temperature of 1,200°C with a 1 - 2-hr holding at this temperature and the subsequent cooling to 800°C at a rate of 10 - 60 deg/hr. The resulting single crystals displayed round faces. Crystals of a cubic habit to be used for electrical measurement were obtained by adding 3 per cent by weight of H_3BO_3 to the batch composition.

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Growth and electrical properties of...

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A061/A101

The frequency (at 1.45 and 450 kc) and temperature dependences of the dielectric constant (ε) and losses ($\tan\delta$) of these single crystals were examined. In the case of I, the maxima of ε and $\tan\delta$ as functions of temperature increase were found to shift toward the side of higher temperatures with frequency increase. No hysteresis loops were established at room temperature and at $4.2^{\circ}K$ in fields of 52 and 100 kv/cm, respectively, whereas unsaturated hysteresis loops were found at liquid nitrogen temperature. The conclusion is reached that single crystals of I have relaxation-type polarization, induced by the relaxation of domain walls, and ferroelectric polarization. In the case of II, the maxima of ε and $\tan\delta$ were found to shift toward the side of higher temperatures at frequency increase; in addition, the ε value dropped. When a constant 19 kv/cm-field was applied, ε and $\tan\delta$ were also reduced, and their maxima were smoothed out. Hysteresis loops were found below $60^{\circ}C$; moreover, spontaneous polarization and the coercive field grew with temperature decrease. A domain structure was not observed as far as $-180^{\circ}C$. The mechanism of polarization was the same as in I.

A. Sonin

[Abstracter's note: Complete translation]

Card 2/2

20793

S/181/61/003/003/019/030
B102/B205

9.4300 (1145, 1136, 1150)

AUTHORS: Bokov, V. A. and Myl'nikova, I. Ye.

TITLE: Electrical and optical properties of single crystals of ferroelectrics with blurred phase transition

PERIODICAL: Fizika tverdogo tela, v. 3, no. 3, 1961, 841-855

TEXT: When investigating ferroelectrics of the perovskite type, G. A. Smolenskiy, V. A. Isupov, and A. I. Agranovskaya have found that also other complicated compounds have ferroelectric properties. Of these, the compounds $PbMg_{1/3}Nb_{2/3}O_3$ (I) and $PbNi_{1/3}Nb_{2/3}O_3$ (II) and their mutual alloys have been studied most thoroughly. The two compounds show a relaxative shift of the maxima of the temperature functions of ε and tan δ, which is quite unusual in the case of compounds with ferroelectric properties. I shows no hysteresis loop near the point of saturation, not even in very strong fields, which is also an unusual observation. The authors have now studied the electrical and optical properties of single crystals of compounds I and II, and give a detailed report on their results. The single crystals were ob-

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tained by crystallization from a solution at decreasing temperature (20-40 deg/hr). The crystals were subjected to chemical and X-ray analyses (using CoK_α radiation in the latter). They were found to possess a perovskite-type structure with the lattice constants a = 4.03 A (II) and a = 4.04 A (I). The pycnometrically determined densities were 8.55 g/cm^3 (II) and 8.12 g/cm^3 (I), and were somewhat smaller than the values obtained by X-ray analysis. The authors examined specimens $(0.5 \text{ mm})^3$ large and foils of ~0.1 mm thickness. ε and tan δ as a function of temperature at $E_=$ = 15 kv/cm and different frequencies is shown for I in Fig. 1 and for II in Fig. 8. The effect of a change of the field strength ($E_=$) was similar to that of a change in frequency: An increase of $E_=$ in the case of I and II led to a decrease of the maxima of ε and tan δ, and in the case of I also to a shift of the maxima toward higher temperatures. At low temperatures, the single crystals of I showed a nearly rectangular, dielectric hysteresis loop which was quickly narrowed down with a rise in temperature. At -30°C it was so narrow that it was no longer possible to determine the coercive force. Whereas the coercive force decreased quickly with rising temperature, and vanished before reaching the zero point, the spontaneous polariza-

Electrical and ...

tion likewise decreased with rising temperature; at +80°C, however, it had not yet vanished. The reversal of polarity of a single crystal of I was studied, and the result is schematically represented in Fig. 6. The temperature dependence of the intensity of birefringence of a polarized single crystal of I was also studied. The results are shown in Fig. 7: curve I was plotted on heating, and curves 2 and 3 on cooling (without a field). The maximum value of Δn at -190°C ($5 \cdot 10^{-3}$) is still smaller by one order of magnitude than that of $BaTiO_3$. All specimens of I and II maintained their optical isotropy up to -190°C. Application of a field resulted in birefringence, the relation $\Delta n = \alpha E^2$ being well satisfied at room temperature. The following results have been obtained from a very detailed discussion: I and II are ferroelectrics the phase transition of which covers a wide range of temperature. This is due to variations in concentration which are again due to the fact that the sublattice contains no ions which are orientated in octahedral arrangement. The phase transition to the ferroelectric state takes place by spontaneous polarization in the individual microdomains of the crystal. This leads to the formation of very fine domains which form larger domains only under the action of an electric field

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S/181/61/003/003/019/030
B102/B205

In the case of II, this process is not completed at ordinary usual field strengths and is unstable. The relaxative properties of the compounds in question are due to relaxation of the domain boundaries; this is analogous to that occurring in several ferroelectric solid solutions. Professor G. A. Smolenskiy is thanked for discussions and his interest in the work, and N. N. Parfenova for chemical analyses. I. G. Izmailzade is mentioned. The main results of the present work were communicated at the third Conference on Ferroelectricity, Moscow, January 1960. There are 12 figures and 16 references: 15 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors, AS USSR, Leningrad)

SUBMITTED: July 25, 1960

Legend to Fig. 1: 1) 100 cps, 2) 1 kc, 3) 10 kc, 4) 60 kc, 5) 600 kc, 6) 1 Mc.

S/056/62/042/002/054/055
B108/B138

AUTHORS: Bokov, V. A., Myl'nikova, I. Ye., Smolenskiy, G. A.

TITLE: Ferroelectric antiferromagnetics

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 2, 1962, 643-646

TEXT: The authors proved the assumed existence of perovskite-type ferroelectric antiferromagnetics at the compounds $Pb(Fe_{2/3}W_{1/3})O_3$ and $Pb(Fe_{1/2}Nb_{1/2})O_3$ (the ions in parentheses are located at the octahedral sites). The electric properties were measured at single crystals and the magnetic properties at finely ground crystal powder. Results for the first compound are shown in the Fig. The second compound has similar properties. The temperatures of ferroelectric phase conversion are 178°K for $PbFe_{2/3}W_{1/3}O_3$ and 387°K for $PbFe_{1/2}Nb_{1/2}O_3$ (maximum of ϵ). The phase conversion temperatures from paramagnetic into antiferromagnetic state are 363°K for $PbFe_{2/3}W_{1/3}O_3$ and 143°K for $PbFe_{1/2}Nb_{1/2}O_3$. However, all these

Card 1/

phase conversions are rather washed out so that the given temperatures are only approximate. The Néel temperature of these compounds is much lower than in orthoferrites since the former contain a considerable number of unmagnetic ions at the octahedral sites. The experimental and calculated Néel temperatures of $PbFe_{2/3}W_{1/3}O_3$ (363 and 406°K, respectively) are in good agreement. For $PbFe_{1/2}Nb_{1/2}O_3$ these values (143 and 276°K, respectively) differ considerably owing to the segregation of ions of one kind in the sublattice in the case of high "dilution" of the solid solution. The relatively small effective magnetic moment of the Fe^+ ions in $PbFe_{2/3}W_{1/3}O_3$ (μ_{eff} = 4.2 μ_B, calculated 5.92 μ_B) is due to the inexact extrapolation of the linear part of the $1/\chi(T)$ curve. For $PbFe_{1/2}Nb_{1/2}O_3$, μ_{eff} = 5.4 μ_B. A residual magnetic moment could not be observed owing to the high coercive force. There are 1 figure, 1 table, and 5 references: 2 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: J. Tsubokawa, J. Phys. Soc. Japan, 15, 2243, 1960; M. A. Gillo, J. Phys. Chem. Solids, 13, 33, 1960

Ferroelectric antiferromagnetics

S/056/62/042/002/054/055
B108/B138

ASSOCIATION: Institut poluprovodnikov Akademii nauk SSSR (Institute of Semiconductors of the Academy of Sciences USSR)

SUBMITTED: December 17, 1961

Legend to the Fig.: temperature dependences of (1) χ, (2) $1/\chi$, (3) ϵ, (4) $\tan\delta$.

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Card 3/4

BOBKOV, V.A.; SMOLENSKIY, G.A.; KIZHAYEV, S.A.; MYL'NIKOVA, I.Ye.

Magnetic and electric properties of ferroelectric yttrium and ytterbium manganates. Fiz. tver. tela 5 no.12:3607-3609 D '63. (MIRA 17:2)

1. Institut poluprovodnikov AN SSSR, Leningrad.

ACCESSION NR: AP4023391 S/0048/64/028/003/0462/0469

AUTHOR: Gurevich,A.G.; Meg,Hsien-chen; Starobinets,S.S.; Solov'yev,V.I.; My*l'nikova, I.Ye.

TITLE: Anisotropy of the resonance curve width in yttrium garnet doped with rare earth elements /Report, Symposium on Ferromagnetism and Ferroelectricity held in Leningrad 30 May - 5 June 1963/

SOURCE: AN SSSR. Izvestiya, Seriya fizicheskaya, v.28, no.3, 1964, 462-469

TOPIC TAGS: spin wave, spin wave resonance, resonance curve, resonance curve width, resonance curve anisotropy, yttrium garnet, doped yttrium garnet

ABSTRACT: Perfect yttrium garnet single crystals are ideal for investigating various effects involved in ferromagnetic resonance. By doping the crystals with different ions - specifically, rare earth ions - the anisotropy and relaxation produced by such ions can be observed in pure form. In the present work there were carried out resonance measurements with doped yttrium garnet single crystals grown from a molten solution by the Nielsen-Dearborn (J.Phys.Chem.Solids,5,202,1958) technique. The initial yttrium oxide was 99.9995% pure; the purity of the rare

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earth oxides was better than 99.99%. The specimens were ground to spherical shape by the air spinning procedure of I.Ye.Gubler (Pribory* i tekhnika eksperimenta,No. 5,145,1960) and polished with fine-grain abrasive. The measurements were performed in the 3-cm range with the specimens located in the antinode of the magnetic field in TE_{10n} rectangular cavities. For the measurements in the 4.2 to 78°K range the reflection cavity was immersed in liquid helium and the measurements were made at 4.2°K and during the temperature rise after evaporation of the helium. The measurements at 78° and higher were carried out by the procedure described earlier (Fiz. tverdogo tela,5,740,1963; Pribory* i tekhnika eksp.,No.1,73,1963). The width of the spin-wave resonance curve was determined by measuring the spin wave excitation thresbold with longitudinal pumping, as described by E.Schloemann,J.Green and U. Milano (J.Appl.Phys.,31,No.5,Suppl.386S,1960). The pulse duration was 3 microsec. The experimental results are presented in the form of a series giving the angle dependences of $2\Delta H$ and H_{res} for different specimens as well as the temperature dependence for yttrium garnet with 0.01% Tb. The $2\Delta H$ curves exhibit structure. The principal conclusions are: 1. At temperatures above the point of the temperature maximum of $2\Delta H$ there obtain in rare earth doped yttrium garnet angular $2\Delta H$ minima at angles corresponding to closer approach to the energy levels of the rare earth

ACCESSION NR: AP4023391

ions. 2. The angular maxima of 2ΔH in yttrium garnet at low temperatures exhibit fine structure at least in the case of some rare earth impurities. 3. The anisotropy of the spin wave resonance curve width, due to rare earth ions, does not depend significantly on the wavenumber. Orig.art.has: 9 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10Apr64 ENCL: 00

SUB CODE: PH NR REF SOV: 006 OTHER: 010

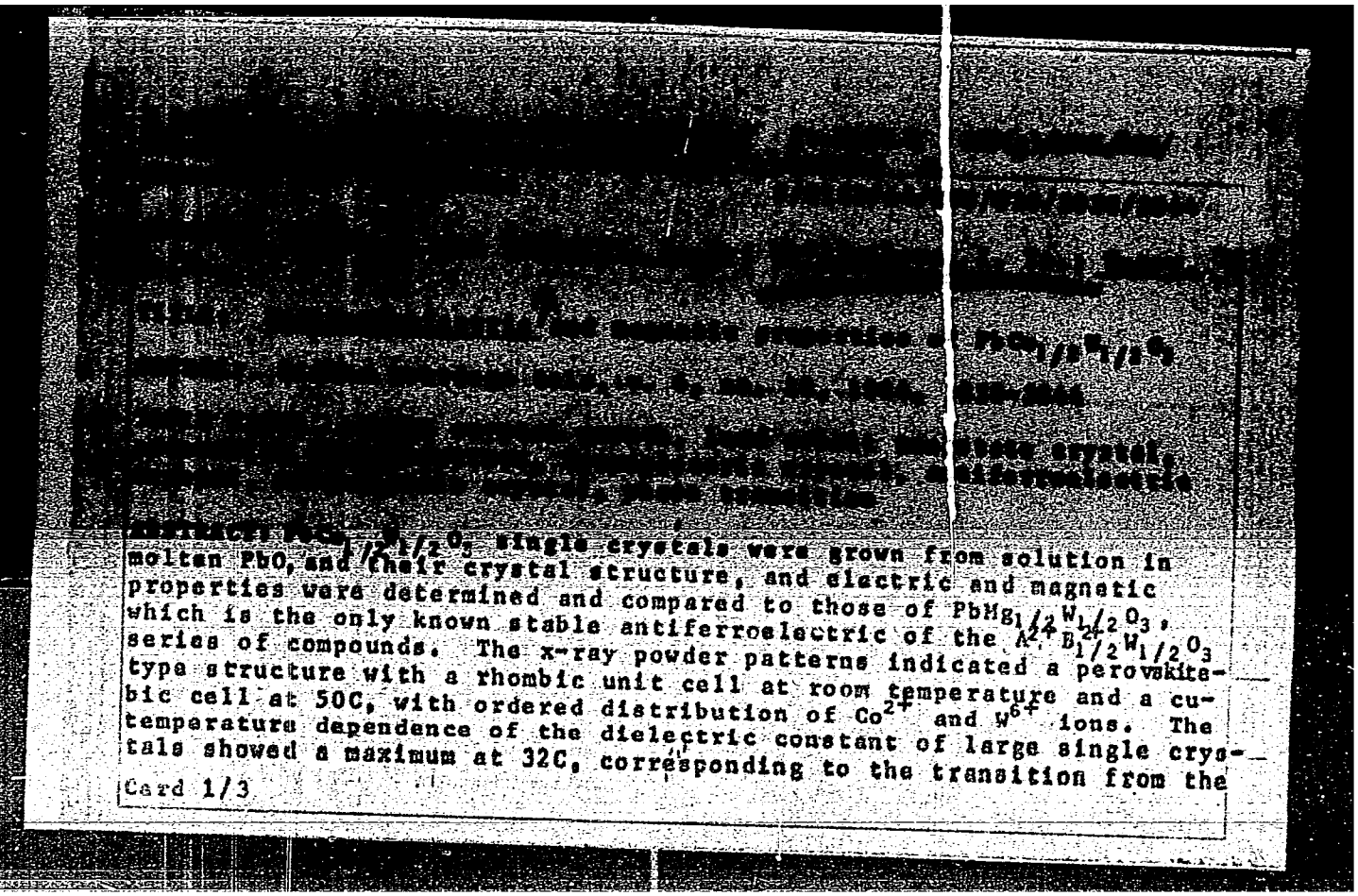
Card 3/3

TUTOV, A.G.; MYL'NIKOVA, I.Ye.; PARFENOVA, N.N.; BOKOV, V.A.; KIBAYEV, S.A.

New compounds in the systems Bi_2O_3-Me_2O_3 (Fe^{3+}, Al^{3+}, Ga^{3+}, Mn^{3+} ...

Fiz. tver. tela 6 no. 4:1240-1242 Ap '64. MIRA 17:6

1. Institut poluprovodnikov AN SSSR, Leningrad.



$Pb(Co_{1/2}W_{1/2})O_3$ single crystals were grown from solution in molten PbO, and their crystal structure, and electric and magnetic properties were determined and compared to those of $PbMg_{1/2}W_{1/2}O_3$, which is the only known stable antiferroelectric of the $A^{2+}B^{2+}_{1/2}W_{1/2}O_3$ series of compounds. The x-ray powder patterns indicated a perovskite-type structure with a rhombic unit cell at room temperature and a cubic cell at 50C, with ordered distribution of Co^{2+} and W^{6+} ions. The temperature dependence of the dielectric constant of large single crystals showed a maximum at 32C, corresponding to the transition from the

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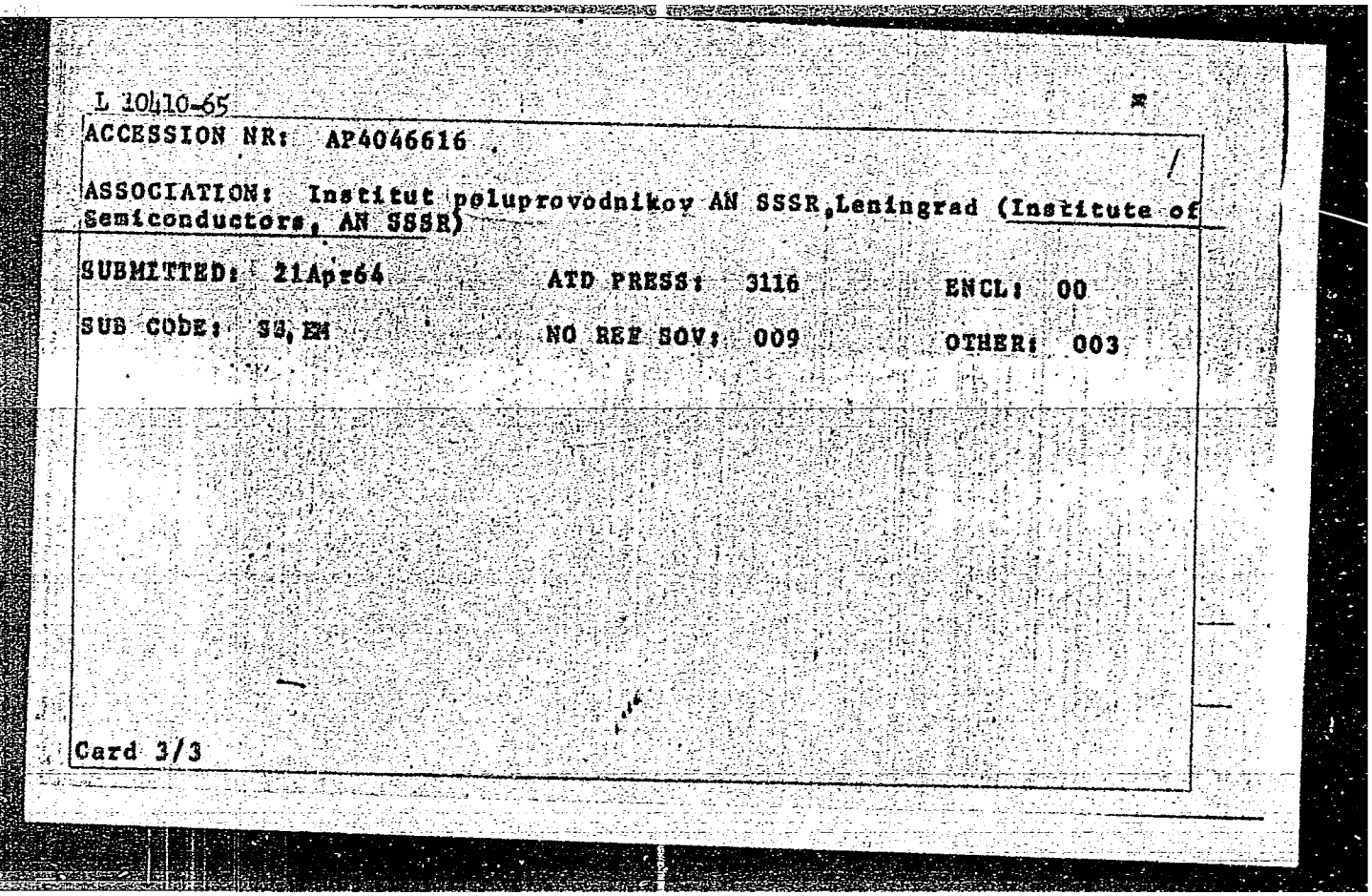
paraelectric (cubic) phase to the antiferroelectric (rhombic) phase. This maximum shifted toward lower temperatures on application of an increasing constant electric field. The observed double hysteresis loops in the antiferroelectric phase, i.e., at low temperatures (below -100C) when strong electric fields are applied, was correlated with an induced transition from the antiferroelectric into the ferroelectric state. The double hysteresis loop was gradually transformed into a normal loop when temperature was decreased further to -193C. The transition point into the ferroelectric state in the absence of a field was determined to be -206C. The "critical" field, at which the hysteresis loop disappears, was shown to decrease with decreasing temperature. The transition into the ferroelectric state in a strong electric field is possible because of a small difference in the free energies of both states. The antiferroelectric state is more stable in $PbMg_{1/2}W_{1/2}O_3$ than in $PbCo_{1/2}W_{1/2}O_3$, since no double loop was obtained in the former. The temperature dependence of the specific magnetic susceptibility of $PbCo_{1/2}W_{1/2}O_3$ could not be correlated with the appearance of antiferroelectricity, although a deviation from the Curie-Weiss law was noted below -100C. The absence of magnetic-phase transitions was deduced, at least in the temperature range above -196C. Orig. art. has: 6 figures.



L 10410-65

ACCESSION NR: AP4046616

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors, AN SSSR)

SUBMITTED: 21Apr64 ATD PRESS: 3116 ENCL: 00

SUB CODE: SS, EM NO REF SOV: 009 OTHER: 003

Card 3/3

L 57038-65 EWT(1)/EPA(s)-2/EWT(m)/EEC(t)/T/EWP(t)/EWP(b)/EWA(c) Pt-7/Pl-4
IJP(c) JD/JG/GG

ACCESSION NR: AP5016122 UR/0048/65/029/006/0929/0932

AUTHOR: Bokov, V.A.; Kizhayev, S.A.; Myl'nikova, I.Ye.; Tutov, A.G.; Osa troumov, A.G.

TITLE: Antiferroelectric and ferroelectric phase transitions in $PbCo_{0.5}W_{0.5}O_3$ /Report, 4th All-Union Conference on Ferroelectricity held in Rostov-on-the-Don 12-18 Sept 1964/

SOURCE: AN SSSR. Izvestiya. Ser.fizicheskaya, v.29,no.6,1965, 929-932

TOPIC TAGS: ferroelectric material, antiferroelectric material, antiferromagnetic material, perovskite structure, lead compound, cobalt compound, tungsten compound, single crystal

ABSTRACT: The authors have grown single crystals of $PbCo_{0.5}W_{0.5}O_3$ by cooling a solution in PbO from 1200 to 800°C at the rate of 5°C/hour. X-ray diffraction measurements with powders of the single crystals gave values of the lattice constants in agreement with those obtained for polycrystalline material by V.C.Filip'ev and Ye.G.Fesenko (Kristallografiya 9,293,1964). The material has the perovskite structure

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L 57038-65
ACCESSION NR: AP5016122

and the symmetry is rhombohedral at 26°C and cubic at 50°C. The dielectric constant was found to have a maximum at 32°C. This maximum exhibited slight temperature hysteresis and was shifted toward lower temperatures by application of an electric field. The dielectric constant curve had a knee at 68°K and the loss tangent was maximum at 58°K. With thin (50 micron) plates, double hysteresis loops were observed below -100°C in fields of the order of 150 kV/cm. The hysteresis loops were single at liquid nitrogen temperatures. It is concluded that the material undergoes a phase transition from the paraelectric to the antiferroelectric state at 32°C and from the antiferroelectric to the ferroelectric state at 68°K. The appearance of ordinary hysteresis loops above the ferroelectric transition temperature is discussed. The magnetic susceptibility was measured. Deviations from the Curie-Weiss law indicate that the material becomes antiferromagnetic at sufficiently low temperatures. Orig.art.has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: SS, IC

NR REF SOV: 005 OTHER: 000

Card 2/2

L 9246-66 EWT(l)/EWP(e)/EWI(m)/T/EWP(t)/EWP(b)/EWA(c) EJP(c) JD/JG/GG/WH

ACC NR: AP5022740 SOURCE CODE: UR/0181/65/007/009/2853/2856

44,55 44,55 44,55 44,55

AUTHOR: Aleyev, A. N.; Venetskaya, N. N.; Zablotskiy, G. A.; Kyl'nikova, I. Ye.; Pisarev, R. V.; Proskuryakov, O. B.

44,55 44,55 44,55

ORG: Institute of Semiconductors AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR)

89 83 B

TITLE: Investigation of ferrite-garnet single crystals with vanadium

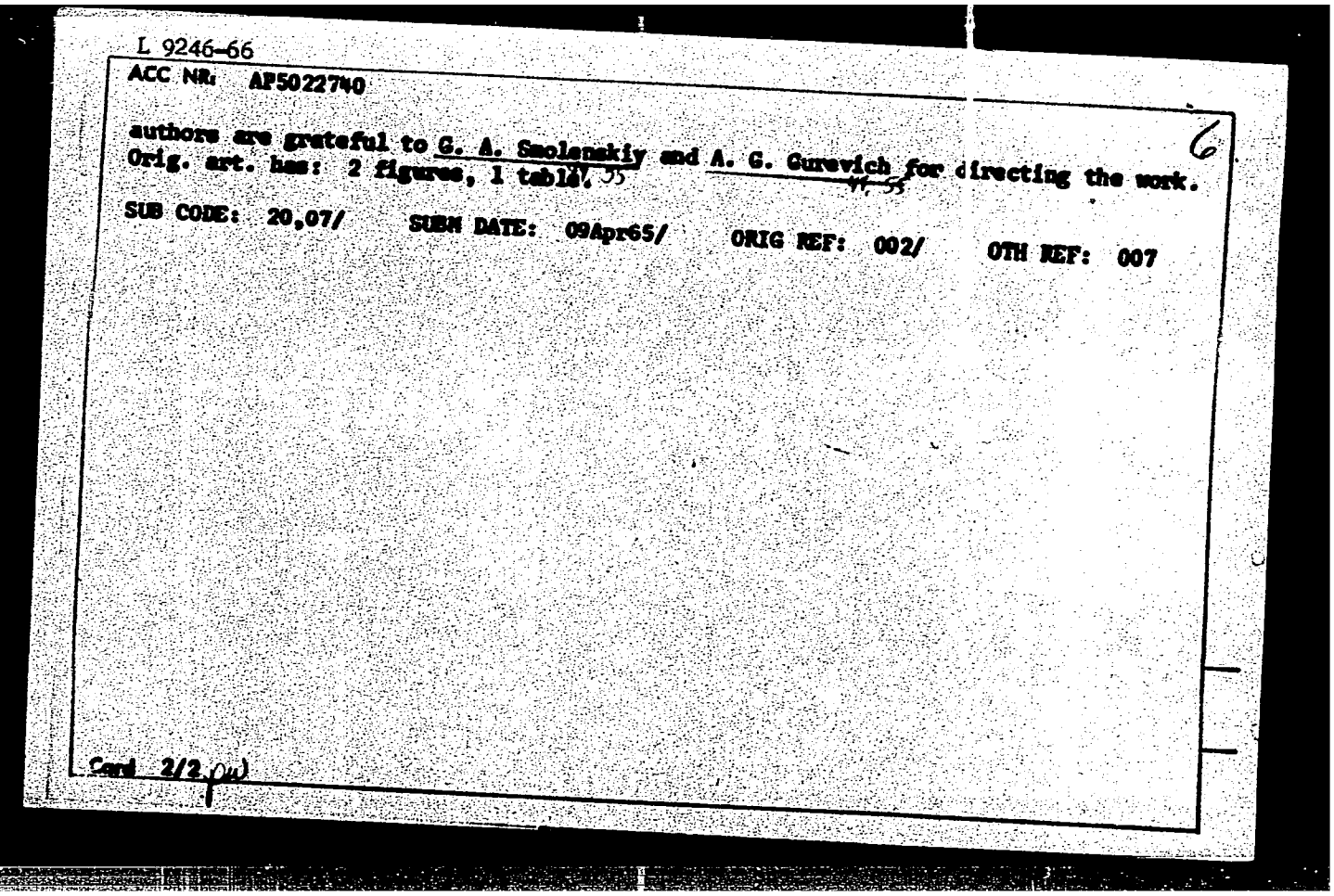
SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2853-2856

TOPIC TAGS: single crystal, vanadium, garnet, ferrite, absorption spectrum

18 27

ABSTRACT: Some data are given from preliminary studies on single crystals of garnets which contain vanadium ions. Specimens of $(Bi_{3-2x}Ca_{2x})[Fe_2](Fe_{3-x}V_x)O_{12}$ single crystals were grown, using Bi_2O_3, Fe_2O_3, V_2O_5 and $CaCO_3$ as initia components. The best crystals were those with $x = 1.33$ and dimensions of 5-7 mm. Measurements of magnetization from room temperature to the Curie point show that the composition of the synthesized crystals corresponds to that of the initial charge. Curves are given for $2\Delta H$ as a function of temperature along crystallographic axes [111], [110] and [100] in plane (110) for a garnet crystal with $x = 1.33$. Spectral studies of thin plates (about 5 μ) show an absorption maximum at about 0.87 μ and a second weaker maximum at about 0.69 μ, with transparency in the visible and infrared regions. The

Card 1/2



L 9246-66
ACC NR: AP5022740

authors are grateful to G. A. Smolenskiy and A. G. Gurevich for directing the work. Orig. art. has: 2 figures, 1 table. 55

SUB CODE: 20,07/ SUBM DATE: 09Apr65/ ORIG REF: 002/ OTH REF: 007

Card 2/2 pw

L 15742-66 EWT(m)/EWP(w)/T/EWP(t)/EWP(b) IJP(c) JD

ACC NR: AP6000897 SOURCE CODE: UR/0181/65/007/012/3695/3698

AUTHORS: Bokov, V. A.; Myl'nikova, I. Ye.; Kizhayev, S. A.; Bryzhina, M. F.; Grigoryan, N. N. 63 62 B

ORG: Institute of Semiconductors, AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR)

TITLE: Structure and magnetic properties of $BiMnO_3$

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3695-3698

TOPIC TAGS: bismuth compound, manganese compound, magnetic property, temperature dependence, Curie point, ferromagnetic material, solid solution, ferroelectricity

ABSTRACT: The authors synthesized the $BiMnO_3$ in the form of small whiskers, using a technique described elsewhere (FTT v. 6, 1240, 1964), and measured its magnetic properties at temperatures from 55K to room temperature at H_{max} = 9.5 kOe. They found $BiMnO_3$ to be a ferromagnet

Card 1/2

L 15742-66
ACC NR: AP6000897

with a Curie point at 110K. The large ferromagnetic moment of $BiMnO_3$ is attributed to positive exchange interaction in the chains Mn^{3+} -- O -- Mn^{3+}. The authors also synthesized solid solutions $Bi_{1-x}Ca_xMnO_3$ with x = 0.4, 0.3, and 0.2, using a standard ceramic technique. An investigation of the magnetic properties of these solid solutions at temperatures from 77K to room temperature has shown that increasing $CaMnO_3$ concentration the paramagnetic Curie temperature decreases. The solid solution $Bi_{0.6}Ca_{0.4}MnO_3$ has a maximum magnetic susceptibility at 155K. The drop in the paramagnetic Curie point with increasing x is related to a decrease in the distances between ions of the manganese in all three directions. The existence of the compound $BiMnO_3$ and of solid solutions on its basis offers, in the authors' opinion, another possibility of obtaining ferroelectric-ferromagnets. Authors thank G. A. Smolenskiy for encouraging this work and for a discussion of the results. Orig. art. has: 2 figures

SUB CODE: 20, 11/ SUBM DATE: 23Jul65/ ORIG REF: 006/ OTH REF: 002

Card 2/2

L 29308-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6012455 SOURCE CODE: UR/0181/66/008/004/1013/1020

AUTHORS: Ansel'm, L. N.; Bir, G. L.; Myl'nikova, I. Ye.; Petrov, M. P.

ORG: Institute of Semiconductors AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR)

67
65
B

TITLE: Electron paramagnetic resonance of Cr^{3+} ions in lithium-aluminum spinel

21

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1013-1020

TOPIC TAGS: electron paramagnetic resonance, chromium, lithium compound, aluminum compound, epr spectrometry, fine structure

ABSTRACT: The purpose of the investigation was to determine the structure of the crystalline electric fields in the octahedral lattice sites of inverted and intermediate ordered spinel. The single crystals of $LiAl_5O_8$ were grown by spontaneous crystallization from the solution. The solvent was a mixture of PbF_2 and PbO. The EPR spectra were measured at room temperature in the 3-cm band using a standard radiospectroscope (RE-1301). In the main measurements the constant magnetic field was in the (110) plane. When the magnetic field was rotated in this plane, seven lines were observed, and the angular dependence of their positions

Card 1/2

L 29308-66

ACC NR: AP6012455

2

as well as the number point to the existence of a strong crystalline field with rhombic symmetry. The spin Hamiltonian corresponding to the spectrum and the corresponding values of the g factor and the crystal-field constants are determined. The Cr^{3+} ion has twelve magnetically non-equivalent positions, so that in an external magnetic field of arbitrary direction it is possible to observe 12 EPR lines. To determine the correct number of lines it is necessary to take into account the rhombic distortion of the potential, and this is found to be due to the presence of differently-charged ions, Al^{3+} and Li^{+}, in the octahedra. The rhombic distortion decreases linearly with increasing temperature (from 250 Oe at 100K to 120 Oe at 800K). The rhombic distortion also causes the axis of the crystal electric field in the octahedra to deviate somewhat from the crystallographic axes [111]/$\sqrt{3}$, [112]/$\sqrt{6}$, and [110]/$\sqrt{2}$. The larger the difference in the charge between the ions and the octahedra, the greater the deviations of the field axes. The authors thank G. A. Smolenskiy for interest in the work and a discussion of the results and M. F. Bryzhina for x ray investigations of the samples. Orig. art. has: 18 formulas and 2 figures.

SUB CODE: 20/ SUBM DATE: 23Jul65/ ORIG REF: 003/ OTH REF: 007

Card 2/2 OK

MYL'NIKOVA, L. I. Cand Med Sci -- (diss) "Peculiarities of the [redacted] resistance of white rats of various age [redacted] to certain analgesics." Mos, 1958. 17 pp (Acad Med Sci USSR), 220 copies (KL, 52-58, 107)

YERMAN, B. A.; MYL'NIKOVA, N. Ye. (Sverdlovsk)

Pathomorphology and histochemistry of poliomyelitis in children vaccinated with Salk vaccine. Arkh. pat. no.12:11-16 '61. (MIRA 15:7)

1. Iz Sverdlovskogo nauchno-issledovatel'skogo instituta po profilaktike poliomiyelita (dir. G. F. Bogdanov)

(POLIOMYELITIS) (BRAIN) (SPINAL CORD)

ASTAKHOVA, L.N.; UTNITSKAYA, P.M.; LEVINA, T.A.; KURANOVA, L.K.; VODYANNIKOVA, A.A.; SUCHIL'NIKOVA, N.A.; MYL'NIKOVA, N.Ye.; LYUBOVITSKAYA, V.Z.

Separability of the poliomyelitis virus in those innoculated with live attenuated vaccine. Vop. virus 7 no.1:121 Ja-F '62. (MIRA 15:3)

1. Sverdlovskiy institut po profilaktike poliomiyelita.
(POLIOMYELITIS VACCINE)

SIRBILADZE, N.Ya.; RALISHVILI, L.T.; DROZDOVA, Ye.; MYL'NIKOVA, T.A.; KARCHKHADZE, R.G.

Production of pyrogen-free antidiphtheria and antitetanus therapeutic sera. Nauch. osn. proizv. bakt. prep. 10:196-205 '61. (MIRA 18:7)

1. Tbiliskiy institut vaktsin i syvorotok.

L 27176-66 EWT(l)/T IJP(c)
ACC NR: AP6005397 SOURCE CODE: UR/0413/66/000/001/0152/0152

INVENTOR: Levina, F. A.; Myl'nikova, V. S.; Rybalko, G. I. Sidaravichyus, D. -I. B.; Sladkov, A. M.; Terenin, A. N.

ORG: none

TITLE: Preparation of electrophotographic layers. Class 57, No. 169395

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 152

TOPIC TAGS: electrophotography, electrophotographic layer

ABSTRACT: An Author Certificate has been issued describing a method for making electrophotographic layers, using poly-N-vinylcarbazole as binder. To increase the sensitivity of the coating, organic photoelectric sensitive compounds such as metal polyacetylenes and acetylenides are added to the poly-N-vinylcarbazole. [LD]

SUB CODE: 11/ SUBM DATE: 27Jul63/

Card 1/1

BR

ACCESSION NR: AP4013512 S/0181/64/006/002/0499/0502

AUTHORS: Polandov, I. N.; Mywlov, V. A.

TITLE: Dielectric properties of polycrystalline solid solution Ba(Ti,Zr) O_3 in the region of the phase transition at high pressures

SOURCE: Fizika tverdogo tela, v. 6, no. 2, 1964, 499-502

TOPIC TAGS: dielectric property, solid solution, polycrystalline solid solution, phase transition, high pressure, dielectric constant, Curie Weiss law

ABSTRACT: The authors have investigated the dielectric properties of a polycrystalline solid solution of $Ba(Ti_{0.9}, Zr_{0.1})O_3$ in weak electric fields and in a pressure range up to 6100 kg/cm^2. They have measured the dependence of the dielectric constant on temperature in the region of the phase transition at various pressures. These data are shown graphically in Fig. 1 on the Enclosure. The authors have found that, with increase in pressure, curves showing the dependence of dielectric constant on temperature shift toward low temperatures. Plotting the reciprocal of the dielectric constant as a function of temperature has shown that at high pressures and in weak electric fields the Curie-Weiss law is fulfilled.

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ACCESSION NR: AP4013512

The temperature of the ferroelectric phase transition decreases linearly with application of pressure, and has a coefficient of $-3.8 \cdot 10^{-3}$ degree/atm. "In conclusion, we consider it our duty to express our sincere thanks to L. F. Vereshchagin, Corresponding Member AN SSSR, for his guidance of the work and his constant interest." Orig. art. has: 4 figures.

ASSOCIATION: Institut fiziki vysokikh davleniy AN SSSR, Moscow (Institute of the Physics of High Pressures AN SSSR); Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 15Aug63 DATE ACQ: 03Mar64 ENCL: 01

SUB CODE: PH NO REF SOV: 006 OTHER: 004

Card 2/3

ACCESSION NR: AP4013512

ENCLOSURE: 01

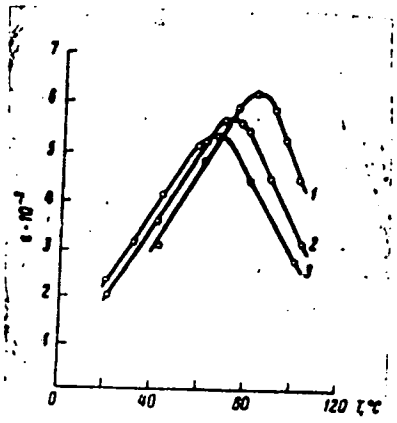

Fig. 1. Dependence of the dielectric constant of a solid solution of $Ba(Ti_{0.9}, Zr_{0.1})O_3$ on temperature at different pressures (kg/cm²): 1 - 2000 kg/cm²; 2 - 4300; 3 - 6100. Strength of the alternating electric field is 30 v/cm.

Card 3/3

L 04418-67 EWT(l)/EWT(m)/EWP(j)/T/EWP(t)/ETI/EWP(k) LJP(c) JD/WW/HW/RM
ACC NR: AP6034270 SOURCE CODE: UR/0386/66/004/007/0255/0258

AUTHOR: Mylov, V. P.; Polandov, I. N.; Strukov, B. A.

ORG: Chemistry Department of the Moscow State University im. M. V. Lomonosov (Khimicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: New phase-transition line in crystalline triglycine selenate at high pressures

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 7, 1966, 255-258

TOPIC TAGS: ferroelectric material, phase transition, high pressure research, dielectric constant, electric polarization, Curie point

ABSTRACT: This is a continuation of earlier work (Fiz. tverdogo tela v. 4, 3337, 1962) on the ferroelectric properties of triglycine sulfacte and triglycine selenate crystals. The present study is confined to triglycine selenate but the hydrostatic pressure has been raised to 8000 kg/cm^2. Measurements were made of the dielectric constant and the spontaneous polarization in the phase-transition region. It was found that the dielectric constant decreases at the Curie point with increasing pressure, the relative change in the dielectric constant at the Curie point at 5000 kg/cm^2 being ~60%. At pressures up to 8000 kg/cm^2 the Curie temperature shifts linearly into the region of higher temperature at a rate 3.7×10^{-3} deg/kg/cm^2, which is in good agreement with the results obtained earlier at pressures up to 2700 kg/cm^2. Measurements of the spontaneous polarization of triglycine selenate with the aid of a "hystereso-

Card 1/2

L 04418-67

ACC NR: AP6034270

graph" (Izv. VUZov. Priborostroyeniya v. 3, 25, 1960) show that at room temperature and at a pressure near 6000 kg/cm^2 the triglycine selenate crystal goes over to the paraelectric state. When the temperature is raised at fixed pressure, the crystal again becomes ferroelectric, as manifest by the apprearance of a hysteresis loop on the oscilloscope screen and by the readings of the hysteresograph. Further increase in temperature again makes the crystal paraelectric after a phase transition. It is thus found that at 6000 kg/cm^2 triglycine selenate goes through two ferroelectric phase transitions as the temperature is raised. Further investigations were made with the pressure varied under isothermal conditions. During the course of the experiment, hysteresis loops were observed, and the transition temperature was established as the spontaneous polarization decreased to zero and the hysteresis loop disappeared. The investigations show that in the temperature region 0 - 50C, at pressures 5800 - 7800 kg/cm^2, there exists in the triglycine selenate crystal a new line of phase transitions which, together with the transition line previously obtained, delineates the region of existence of the ferroelectric state of the triglycine selenate crystals. The authors thank the director of this work, Academician L. F. Vereshchagin for continuous interest and help. Orig. art. has: 2 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 05Jul66/ ORIG REF: 002/ OTH REF: 005

Card 2/2 vmb

ACC NR: AP6036978 (A,N) SOURCE CODE: UR/0181/66/008/011/3320/3323

AUTHOR: Krasnikova, A. Ya.; Polandov, I. N.; Mylov, V. P.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Character of the behavior of the ferroelectric properties of potassium ferrocyanide

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3320-3323

TOPIC TAGS: potassium compound, ferroelectric property, phase transition, paraelectricity, high pressure research, dielectric constant, temperature dependence

ABSTRACT: This is a continuation of earlier work (FTT v. 8, no. 1, 1967) dealing with the ferroelectric phase transition in potassium ferrocyanide $K_4Fe(CN)_6 \cdot 3H_2O$ in different crystalline modifications. The purpose of the present investigation was to determine the influence of high hydrostatic pressure on the dielectric properties of potassium ferrocyanide, in order to obtain new information on the character of the polytypical transformations observed in this crystal. A single crystal with [101] cut, grown from a solution of recrystallized salt, was tested. The dielectric characteristics were measured in the temperature range from 0 to -55C at pressures up to 5500 kg/cm^2. The tests showed that the greatest sensitivity of the dielectric constant to pressures observed in the region of the transition to the paraelectric phase, for which the rate of change of the transition temperature with pressure is 2.3 x 10^{-3} deg-cm^2/kg, and the rate of change of the maximum dielectric constant with

Card 1/2

ACC NR: AP6036978

pressure is 11.8 x 10^{-3} $kg^{-1}cm^2$. The temperature dependence of the dielectric constant of potassium ferrocyanide exhibited an oscillatory dependence on the temperature, with the values of the peaks and the distances between them differing with the applied pressure. The authors thank L. F. Vereshchagin and V. A. Koptsik for directing the work and discussing the results. Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: 19Mar66/ ORIG REF: 004/ OTH REF: 004

Card 2/2

OUVAROVA, V. M., KRESTOVNIKOVA, T. I., MYLTSEVA, V. A. and ROMANOVSKAYA, K. M.
Sci. Res. Inst. Cinephotography.

Traitement des Emulsions Nikfi Pour Recherches Nucleaires."

paper presented at the Second Intl. Colloquium on Corpuscular Photography.
Montreal, 21 Aug - 7 Sep 1958.

Encl: B-3,114,647.

OUVAROVA, V. M. and TSEVA, V. A.
Sci. Res. Inst. Photography.

"Recherches Sur Les Methodes D'amelioration des Proprietes Mecaniques des Pellicules D'emulsions Nucleaires."

paper presented at the Second Intl. COlloquium on Corpuscular Photography. Montreal, 21 Aug - 7 Sep 1958.

Encl: B-3,114,647.

KALINKINA (fnu), MYLTSEVA, V. A., SMIRNOV, and UVAROVA, V. M.

"Improvement of the properties of nuclear track emulsions through introducing surface active substances of the homologous series of sodium salts of the sulpho-succinic acid esters"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West Germany, 3-8 Sep 62

RADCHENKO, G.A.; MYLYBAYEV, E.A.; KUSTOV, V.N.

Dust formation during blasting operations in stopes with chamber and pillar mining systems. Trudy Inst. gor. dela AN Kazakh. SSR 7:175-182 '60. (MIRA 14:6)
(Blasting) (Mine dusts)